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be issued in February or March, 1914. Attention is drawn to the distinction between this Electrical Congress and the International Engineering Congress which will be held at San Francisco during the week immediately following the electrical congress. The engineering congress is supported by the societies of Civil, Mechanical and Marine Engineers and by the institutes of Mining and Electrical Engineers, as well as by prominent Pacific Coast engineers who are actively engaged in organizing it. This congress will deal with engineering in a general sense, electrical engineering subjects being limited to one of the eleven sections which will include about twelve papers, treating more particularly applications of electricity in engineering work. The meeting of the International Electrotechnical Commission will be held during the week preceding that of the Electrical Congress.

THE third volume of the "Annual Tables of Constants and Numerical Data, Chemical, Physical and Technological," published by the International Commission of the Seventh and Eighth International Congresses of Applied Chemistry is now in press and will be issued in the first half of 1914. A descriptive circular with references to reviews of previous volumes may be secured on application to the University of Chicago Press. The commissioners for the United States are: Julius Stieglitz, the University of Chicago; Edward C. Franklin, Leland Stanford University; Henry C. Gale, the University of Chicago, and Albert P. Mathews, the University of Chicago.

BEGINNING with January, 1914, the American Breeders' Association will be known as the American Genetic Association. At the same time (starting with Vol. V., No. 1) *The American Breeders' Magazine* will be enlarged in size and called *The Journal of Heredity*. The cooperative nature of the association will remain unchanged, and the present scope and character of the magazine will be maintained, but its quality will be still further improved.

A BACTERIOLOGICAL club has recently been organized at the University of Illinois with a membership of fifteen. The organization held its first meeting on Monday evening, Decem-

ber 8, at which an address was given by Dr. Thomas J. Burrill who reviewed the history of bacteriological research. Membership in this club is open both to faculty and to graduate students. Earlier in the year a similar society was organized for the purpose of studying botanical subjects.

THE National Physical Laboratory, Teddington, is in possession of the British radium standard, which has been certified by the International Radium Standards Committee after comparison with the international radium standard now deposited at the Bureau International at Sèvres. The laboratory is prepared to determine the contents of radium and mesothorium preparations by comparison with the standard.

WITHIN the last month the University of Arizona has installed a Callendar pyrheliometer with a Leeds and Northrup recording galvanometer. This type of pyrheliometer consists of a horizontal surface, measuring the vertical component of sky radiation. This surface is made up of two platinum resistance circuits, one blackened, the other bright, mounted in a vacuum. These two circuits form two sides of a Wheatstone bridge, the resistance necessary to balance the bridge being recorded on the sheet. The recording galvanometer has five ranges, one adjusted to this pyrheliometer and the others to various forms of resistance thermometers. The instruments were purchased on the income of a fund presented by Dr. James Douglas, of New York. For standardizing the records, the university has also a Smithsonian silver disk pyrheliometer. It is designed thus to have a permanent record of sky radiation, not only for the purpose of getting data regarding solar energy in that dry and exceptionally clear climate but also for checking any suspected large variations in the solar constant.

UNIVERSITY AND EDUCATIONAL NEWS

AN addition to the resources of the University of Chicago is the completion of the addition to the Ryerson Physical Laboratory, and the reconstruction of the other part of that building. This work increases the re-

sources of the laboratory for research at least threefold. The cost of the addition and reconstruction was about \$200,000, and was the gift of the president of the university board of trustees, Mr. Martin A. Ryerson.

FOUR distinct building projects are going forward at the Carnegie Institute of Technology, involving an expenditure of approximately \$750,000. The concrete foundations are now ready for the steel work in the central building and on the new wing for the Margaret Morrison Carnegie School for Women. The former is to be occupied by the general executive offices and a students' union. Machinery Hall, to house the electrical and mechanical engineering departments, is nearing completion. The high tower, the last piece of work to be done on this structure, will be finished within another month. The front section of the school of design building, including the auditorium, the exhibition rooms and the sculpture work on the exterior, is also still under construction. The following new appointments to the faculty of the school of applied science were made this year: Thomas G. Estep, instructor in mechanical engineering; Charles R. Fettke, instructor in geology; S. Leslie Miller, instructor in civil engineering; Andrew S. Yount, instructor in physical chemistry; Charles P. Mills, instructor in mathematics, and Donald H. Sweet, instructor in physics laboratory.

THE trustees of Barnard College, Columbia University, announce that Mrs. Clinton Ogilvie has promised to contribute \$10,000 toward \$1,000,000 now being raised for endowment.

FOUR thousand dollars to the Massachusetts Institute of Technology for a scholarship preferably to aid Jewish students is a bequest of the late Louis Weissbein, the Boston architect.

THE late Dr. Gavin Paterson Tennent, of Glasgow, by his will bequeathed his entire fortune in medical charity. To the University of Glasgow he left £25,000, as endowment for the faculty of medicine.

THE committee in charge of the Sarah Berliner Research Fellowship for Women offers

annually a fellowship of the value of one thousand dollars, available for study and research in physics, chemistry or biology, in either America or Europe. This fellowship is open to women holding the degree of doctor of philosophy, or to those similarly equipped for the work of further research; applications for this fellowship must be in the hands of the chairman of the committee, Mrs. Christine Ladd-Franklin, 527 Cathedral Parkway, New York, by the first of January of each year.

PROFESSOR ERNEST MERRITT, of Cornell University, has resigned as dean of the graduate school, the resignation to take effect in June, 1914. Professor Merritt will remain at Cornell, and will devote all his time hereafter to the work of the department of physics.

THE following promotions have been made in the College of the City of New York: Frederick G. Reynolds to associate professor of mathematics. To be assistant professor: R. Stevenson in chemistry; M. Philip in mathematics; A. J. Goldfarb and G. G. Scott in natural history. To be instructor: G. M. Brett in mathematics; F. Woll in physical instruction.

THE following appointments have been made in the school of medicine, University of Pittsburgh: Dr. J. A. Hagemann, instructor in laryngology; Dr. F. V. Lichtenfels, demonstrator in laryngology; Dr. August Soffel, instructor in laryngology; Dr. A. P. D'zmura, demonstrator in medicine; Dr. G. C. Weil, demonstrator in surgery; Dr. E. W. zur Horst, demonstrator in medicine; Dr. A. W. Duff, demonstrator in otology; Dr. H. H. Permar, demonstrator in pathology; Mr. H. N. Malone, student assistant in anatomy. Dr. Ellen J. Patterson has been promoted from assistant professor of laryngology to associate professor.

DR. H. M. SHEFFER, recently instructor in mathematics in Cornell University, has been appointed instructor in philosophy in the University of Minnesota.

DR. GWILYD OWEN, lecturer on physics at Liverpool University, has been appointed professor of physics at Auckland University College, New Zealand.

PROFESSOR ROEMER, of Marburg, has been called to Greifswald to conduct the hygienic institute as the successor of Professor Loeffler.

DISCUSSION AND CORRESPONDENCE

A NEW TYPE OF BACTERIAL DISEASE

By this title I mean a disease in which the bacterial growth first develops conspicuously as a thick layer on the surface of the plant, and only later penetrates into its interior.

Ráthay's disease of orchard grass (*Dactylis glomerata*) described by him in 1899 may be taken as the type of this kind of disease. In 1913 I had opportunity to verify Ráthay's statements¹ on material sent to me from Denmark by Professor Kølpin Ravn, and to make pure cultures and further studies of the organism which in honor of Ráthay, may be known as *Aplanobacter ráthayi* n. sp., with the characters assigned to it by Ráthay, and in addition the following:

Nitrates are not reduced; gelatin is finally liquefied, but liquefaction is visible only after some weeks and progresses very slowly; it does not grow in Cohn's solution; growth starts off slowly in milk, but is prolonged with formation of a copious chrome yellow precipitate and a wide bright yellow rim; litmus milk is first slowly blued, but becomes purplish after some weeks; it grows so slowly on agar that poured plates which appear to be sterile may eventually give small yellow colonies. Nearly all of Ráthay's statements have been found to be correct. This note is here published because of delay in the issue of a longer account.

ERWIN F. SMITH

THE MANUS OF TRACHODONT DINOSAURS

IN a recent article in *The Ottawa Naturalist*,¹ Mr. Lawrence M. Lambe has described "The Manus in a Specimen of *Trachodon* from the Edmonton of Alberta," illustrated by three figures. According to Mr. Lambe's interpretation of the Ottawa skeleton the phalangeal formula is as follows:

¹ *Sitz. Ber. Wiener Akad.*, 1 Abt., Bd. CVIII., p. 597.

¹ Vol. XXVII., pp. 21-25, 1913.

Digit II. with three phalanges, the third bearing a hoof.

Digit III. with three phalanges, the third bearing a hoof.

Digit IV. with two phalanges, the second bearing a hoof.

Digit V. with two phalanges, the second bearing a hoof.

Whereas in a specimen that I have described the formula is

Digit II. with three phalanges, the third bearing a hoof.

Digit III. with three phalanges, the third bearing a hoof.

Digit IV. with three phalanges, the third a vestigial bone without hoof.

Digit V. with three phalanges, the third a vestigial bone without hoof.

The writer published a description of the manus of *Trachodon annectens*,² based on the first reported specimen in which all of the phalanges are present. In this specimen the full number of phalanges are not only present but each digit is articulated either in the right or the left hand and all are encased in a thin layer of matrix in which the skin impression is preserved.

In this uncrushed specimen the long slender metacarpals of digits II., III., and IV. are closely appressed as represented in the figure accompanying the above article, a position verified by structure and by position in three other uncrushed specimens in the American Museum, one in the National Museum, and a sixth in the collection of the Calgary Natural History Society.

In no specimen of the genus *Trachodon* known to me have more than two hoof bones been found in the manus—those of digits II. and III. The terminal phalanges of digits IV. and V. are, when uncrushed, rounded bony nodules, very much reduced and were not covered by a hoof or nail.

If Mr. Lambe's interpretation is correct we have a remarkable specific variation in this genus in which a later species, described by me, has developed an additional phalanx on each

² *Bull. Am. Mus. Nat. Hist.*, Vol. XXXI., Art. X., pp. 105-107, 1912.